

**Notice of Allowability**

Application No.

09/930,065

Examiner

Diem K. Cao

Applicant(s)

GANAPATHY, NARAYANAN

Art Unit

2194

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Request for Continued Examination filed on 11/10/2005.
2. ☒ The allowed claim(s) is/are 1-4, 7-8, 10, 21-23, 26-27, 29-31 now renumbered 1-15.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20060130.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
**WILLIAM THOMSON**  
SUPERVISORY PATENT EXAMINER

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. David Wier (Reg. No. 48,229) on January 27 and 30, 2006 .

2. The application has been amended as follows:

Claim 1 (Currently Amended) A computer implemented method of managing memory in a distributed network, the method comprising:

registering a buffer of memory in response to receipt of an input/output request from a client application program;

allowing the client application program access to the registered buffer to perform a the request; ~~and~~

subsequent to performance of the request and in the absence of instruction from the client application program, maintaining the buffer as registered to allow the client application program to perform one or more subsequent requests using the registered buffer;

in response to determining that the client application program has not used the registered buffer within a predetermined time period beginning at the performance of the registering act,

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evaluating whether the buffer should be de-registered and, if the buffer should be de-registered, de-registering the buffer; and

in response to receiving a request from the client application program to free the buffer, de-registering the buffer so that the buffer is available for registration to other client application programs.

Claim 5        Canceled.

Claim 7 (Currently Amended) A method as defined in claim 5 1 wherein the act of de-registering the buffer is performed by the operating system.

Claim 8 (Currently Amended) A method as defined in claim 5 1 wherein the act of de-registering the buffer is not performed by the client application program.

Claim 9        Canceled.

Claim 10 (Currently Amended) A method as defined in claim 9 1 wherein the act of evaluating whether the buffer should de-registered is performed by the operating system using garbage collection techniques.

Claim 23 (Currently Amended) A computer storage medium ~~program-product~~ readable by a computer and encoding instructions for performing a method for managing memory in a distributed network, the method comprising:

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registering a buffer of memory in response to receipt of an input/output request from a client application program;

allowing the client application program access to the registered buffer to perform a the request; and

subsequent to performance of the request and in the absence of instruction from the client application program, maintaining the buffer as registered to allow the client application program to perform one or more subsequent requests using the registered buffer;

in response to determining that the client application program has not used the registered buffer within a predetermined time period beginning at the performance of the registering act, evaluating whether the buffer should be de-registered and, if the buffer should be de-registered, de-registering the buffer; and

in response to receiving a request from the client application program to free the buffer, de-registering the buffer so that the buffer is available for registration to other client application programs.

Claim 24      Canceled.

Claim 25      Canceled.

Claim 27 (Currently Amended) A computer storage medium ~~program-product~~ readable by a computer and encoding instructions for performing a method for managing memory in a distributed network, the method comprising:

receiving an input/output request from a first client application program, wherein the request specifies a specific buffer of information for use in performing the request;

determining whether the specific buffer is registered to another client application program;

if the specific buffer is not registered to another client application program, registering the specific buffer to the first client application program for use in performing the request; and

subsequent to performance of the request and in the absence of instruction from the first client application program, maintaining the buffer as registered to the first client application program to allow the first client application program to use the registered buffer to perform one or more subsequent requests;

in response to determining that the first client application program has not used the registered buffer within a predetermined time period beginning at the performance of the registering act, evaluating whether the buffer should be de-registered and, if the buffer should be de-registered, de-registering the buffer; and

in response to receiving a request from the first client application program to free the buffer, de-registering the buffer so that the buffer is available for registration to other client application programs.

Claim 28      Canceled.

3.      The following is an examiner's statement of reasons for allowance:

As to claims 1-4, 7-8, 10, 21-23, 26-27 and 29-31, the prior art of record does not teach or render obvious the limitations recited in claims 1, 23 and 27, when taken in the context of the claims as a whole, specific to register a buffer of memory in response to a request from a client application, allowing the client application to access the registered buffer to perform the request, maintaining the buffer as registered after performing the request without any instruction from the client application, to allow the client application to perform one or more subsequent requests using the registered buffer, evaluating the buffer as to whether the buffer should be deregistered after a predetermined time period the client application has not use the registered buffer, and de-registered the buffer upon receipt a request from the client application to free the buffer.

Moreover, evidence for modifying the prior art teachings by one of ordinary skill level in the art was not uncovered so as to result in the invention as recited in claims 1, 23 and 27.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diem K. Cao whose telephone number is (571) 272-3760. The examiner can normally be reached on Monday - Friday, 5:30AM - 2:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any response to this action should be mailed to:**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist at 571-272-2100.

Diem Cao

  
WILLIAM THOMSON  
SUPERVISOR